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R-12551P
July 22, 1992

Mr. Peter Pogney
Green Mountain Propane
Citizens Road
Newport, Vermont 05855

SUBJECT: Additional Site Sampling - Citizen's Road Facility (Site #91-1151)

Dear Mr. Pogney:

We have completed the additional round of sampling and analysis at the Green Mountain Propane site (formerly owned by Bradford Oil Company) on Citizen's Road in Newport, Vermont which you requested. This brief letter report is intended to summarize the current site conditions for reporting to the Agency of Natural Resources Sites Management Section.

Brief Site History

DuBois & King, Inc. completed an initial site assessment associated with a property transfer during September, 1991. As part of that assessment, soil borings were completed at the site, two in the immediate, apparent downgradient direction from an underground gasoline storage tank. The soil borings were screened continuously utilizing a field photoionization detector (for volatile organic vapors) and no readings above background level were observed. Because of the shallow site groundwater table, water samples were collected from the two downgradient locations and analyzed utilizing EPA method 602 with a total FID scan. No gasoline components were detected, and the total FID hydrocarbons level was below the detection levels of the test (5 ppb). The underground gasoline storage tank was removed from the site on October 9, 1991. At the time of the tank removal there was only a slight petroleum sheen on the groundwater within the excavation, there was no evidence of free product, and any suspected contaminated soil (documented by field photoionization detector readings or visual observation) was removed from the excavation and poly-encapsulated on site. The contamination was thought to have occurred from residual product releases when the piping and product dispensing pump was disassembled and removed, and was not attributable to tank leakage. A single monitoring well was installed at the site of the former tank, and a first round of groundwater sample was collected on November 13, 1991. No gasoline components were detected in the groundwater collected from this well.

On January 2, 1992 three additional groundwater monitoring wells were installed at the site in the general vicinity of the storage tank. The soil cuttings were continuously monitored during the well installation, and in general no readings above background were noted. Groundwater samples were collected from each of the four wells (three new and one existing) and analyzed utilizing EPA method 602.

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These analysis results indicated that monitoring wells C and D which were located downgradient and to the southwest of the former gasoline storage tank location were contaminated with gasoline components. The wells at and immediately adjacent to the former storage tank location did not indicate any contamination present. A hydrogeologic report was prepared and issued to the ANR-SMS on January 21, 1992 and concluded that the levels of residual contamination present at the site posed no threat to the public health or environment. The ANR-SMS responded with a letter dated February 5, 1992 which essentially agreed with the conclusions of the DuBois & King, Inc. report, but which required that the monitoring wells be analyzed an additional two rounds using EPA Method 602 before a final determination of site status was made. They further requested that some further evaluation of the stockpiled soils be completed so that the final disposition of the soils could be achieved.

Additional Site Evaluation

On June 24, 1992, SCITEST, Inc. analytical laboratory personnel visited the site and completed the following additional evaluations of the site contamination.

1. The poly-encapsulated contaminated soil was divided into eighteen sample grid locations and these locations were screened with a HNu PID-101 volatile organic vapor detector. No readings above 10 ppm were detected. The values of the eighteen screening locations ranged from 2.0 to 10.0 ppm with an average value of 4.5 ppm. The previous values recorded during the tank pull were 150 to 200 ppm.
2. Three core samples were collected from each grid location and were composited together into two composite samples. These samples were analyzed for Total Petroleum Hydrocarbons using EPA Method 418.1. Composite soil sample A was below the reporting limits for the test, and composite soil sample B was just slightly above the reporting limits. No significant heavy petroleum component contamination appears to be present in the sample collected from the stockpiled soil.
3. Groundwater samples were collected from each of the four groundwater monitoring wells and analyzed using EPA Method 602 with an FID scan for total hydrocarbons. As previously noted, groundwater monitoring wells A and B were clear of any BTEX contamination or heavier volatile organic compounds. Monitoring wells C and D continue to show BTEX contamination, but at reduced levels than the previous round of sampling. A comparison of the groundwater quality in the four wells is summarized in Table 1.

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TABLE 1
GROUNDWATER MONITORING RESULTS
GREEN MOUNTAIN PROPANE, NEWPORT VT. SITE NO.91-1151
(Results in ppb)

Component	Monitoring Well A		Monitoring Well B		Monitoring Well C		Monitoring Well D	
	1/2/92	6/24/92	1/2/92	6/24/92	1/2/92	6/24/92	1/2/92	6/24/92
Benzene	BPQL	BPQL	BPQL	BPQL	33	(36)	12	(6)
Toluene	BPQL	BPQL	BPQL	BPQL	1	2	149	10
Ethylbenzene	BPQL	BPQL	BPQL	BPQL	4	2	126	5
Total Xylenes	BPQL	BPQL	BPQL	BPQL	4	2	1,070	27
MTBE	BPQL	BPQL	BPQL	BPQL	91	39	44	6

BPQL = Below Practical Quantitation Limits, 1 ppb for this test.

The results of all field screening and laboratory analysis are attached to this letter report. A trip blank and a field blank were collected and analyzed as part of the standard quality control and assurance protocols.

Conclusions and Recommendations

A. Groundwater:

The results of the second round of groundwater sampling tend to support the conclusions drawn in the DuBois & King, Inc. assessment report dated January 21, 1992. The levels of residual contamination are not increasing, and for many of the components analyzed for, show significant improvements. This may be due to the effects of natural dilution and transport of the residual contamination by the groundwater flow through the site. Although there is no significant threat to public health or the environment due to the low levels of residual contamination and the lack of downgradient receptors, the benzene levels remain above the drinking water standards and further site monitoring is indicated.

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We therefore concur with the ANR-SMS recommendation to maintain the monitoring wells and complete at least another round of groundwater sampling prior to drawing any conclusions relative to site closure. We recommend that another round of groundwater sampling be scheduled for October 1992.

B. Stockpiled Soil:

The results of the field screening using an HNu PID-101, and the follow-up laboratory testing for Total Petroleum Hydrocarbons indicate that the residual gasoline and hydrocarbon contamination in the soils has been reduced to acceptable levels to allow on-site use. Further poly-encapsulation is not expected to further reduce the residual levels in the soil. We therefore recommend that the ANR-SMS allow the spreading of the excavated soils at the Green Mountain Propane Citizen's Road site on the gravel vehicle access areas within the property limits.

Limitations

The opinions expressed in this report are based on the site conditions and the data obtained by DuBois & King, Inc. on the dates noted in this report, and at the depths and locations indicated; they are not intended to be a guarantee that these conditions and data will not change in the future, or that they will not change at different depths and locations. Should additional information become available of a relevant public health or environmental nature, or if conditions change, DuBois & King, Inc. would request to review this data, reserving the right to re-evaluate or amend any opinions made in this report.

We appreciate the opportunity to be of continued service to Green Mountain Propane in their on-going site evaluation and monitoring programs. We are enclosing an additional copy of the report so that you can forward one to Mr. Chuck Schwer of the Agency of Natural Resources, Hazardous Materials Management Division, Sites Management Section for his information and use. If you have any questions concerning the work performed, please contact me.

Very truly yours,

DuBOIS & KING, INC.



Russell W. Rohloff, P.E.
Project Manager

Enclosures

**DuBois
& King** inc.

LABORATORY REPORT

CLIENT NAME: Bradford Oil Company

LABORATORY NO.: 2-0992

ADDRESS: P.O. Box 394
Bradford, VT 05033

PROJECT NO.: 80439

SITE LOCATION: Green Mt. Propane
Newport, VT

DATE OF SAMPLE: 6/24/92

DATE OF RECEIPT: 6/25/92

DATE OF ANALYSIS: 7/8/92

ATTENTION: Peter Pogne

DATE OF REPORT: 7/20/92

TOTAL PETROLEUM HYDROCARBONS (418.1)
RESULTS

(Expressed as milligrams per kilogram mg/kg dry weight (ppm))

<u>LOCATION</u>	<u>CONCENTRATION</u>	<u>REPORTING LIMIT</u>
Soil Composite A	BRL	32
Soil Composite B	32	30

BRL = Below Reporting Limits.

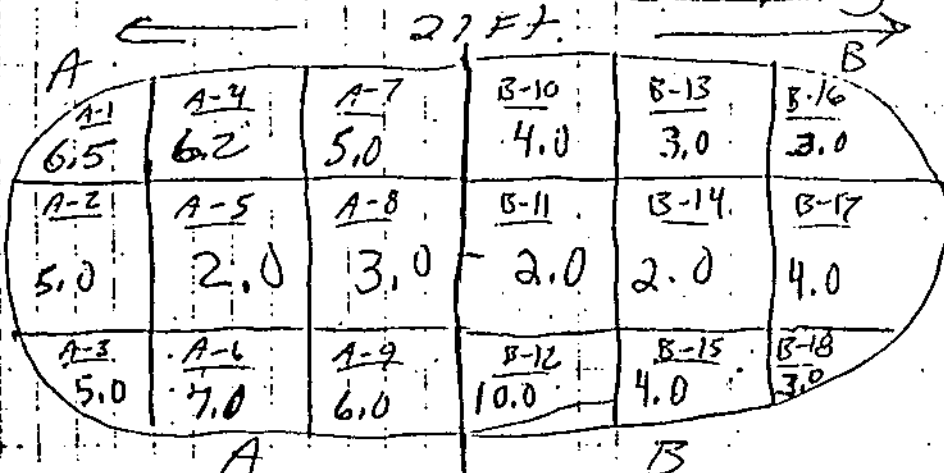
Analysis sub contracted to Groundwater Analytical Labs.

STA	LOCATION	TIME	WELL	DEPTH	WATER	TEMP.	NOTES
1	MW-A	10:40 am	12.713'	4.70'	30.4 g.	11.2°C	4" PVC
2	-B	10:15 am	9.0'	2.86'	12 g.	11.2°C	2" PVC
3	-C	11:05 am	9.3'	4.50'	11.6 g.	10°C	2" PVC
4	-D	11:30 am	8.5'	3.90'	9.2 g.	12.4°C	2" PVC
5	Field BLK.	10:00 am					
6	TRY BLK.						
7	DIRT PILE A	1:30-2:00 pm					SOIL Sample
8	" " B	2:00-2:30 pm					SOIL Sample

Note: No fill in conductivity.
Do MW-C & D LAST.

- 1) Wells B, C, D have covers held by $3/8"$ bolts ground level in parking lot.
- 2) Well A is 4" PVC just off back corner of garage sticks out of ground about 12-16 inches. orange paint on side.

DIRT PILE SAMPLING



Took 3 core samples
From each grid point
and composited.

Approx. 7 Ft.

14' Highest
High Point of
Pile

Wet readings acc. written in quadrant grid sample points



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ATTENTION: Peter Pogne

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RESULTS

(Expressed as [ug/l] micrograms per liter except as noted)

PARAMETER	TRIP BLANK	FIELD BLANK	MW A	MW B	MW C	MW D
Depth to Water (ft.)	---	---	4.70	2.86	4.50	3.90
Temperature °C	---	---	11.2	11.2	10.0	12.4
Benzene	BPQL	BPQL	BPQL	BPQL	36	6
Toluene	BPQL	BPQL	BPQL	BPQL	2	10
Ethylbenzene	BPQL	BPQL	BPQL	BPQL	2	5
Total Xylenes	BPQL	BPQL	BPQL	BPQL	2	27
BTEX	BPQL	BPQL	BPQL	BPQL	42	48
Chlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL	BPQL
1,2-Dichlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL	BPQL
1,3-Dichlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL	BPQL
1,4-Dichlorobenzene	BPQL	BPQL	BPQL	BPQL	BPQL	BPQL
n-Hexane	BPQL	BPQL	BPQL	BPQL	BPQL	BPQL
Methyl Tertiary Butyl Ether	BPQL	BPQL	BPQL	BPQL	39	6
% Surrogate Recovery	104 %	101 %	103 %	104 %	103 %	101 %

EPA Method 602 With FID Scan.

BPQL = Below Practical Quantitation Limit less than 1 ppb.

Respectfully submitted,

SCITEST, INC

Roderick J. Lamothe
Roderick J. Lamothe
Laboratory Director

RJL/ps

c: Russ Rohloff
DuBois & King

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